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EXAMINER

EDWARDS, LYDIA E

ART UNIT

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1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/505,149	Applicant(s) MULLER-HARTMANN ET AL.	
	Examiner LYDIA EDWARDS	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 21-25, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 26-27 and 30-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see amendment, filed 12/5/2008, with respect to the rejection(s) of claim(s) 1-20, 26-27 and 30-46 under 35 USC 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, in light of the current amendment and upon further consideration, a new ground(s) follows.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 24 of copending Application No. 10/972294. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims recite an electrode (called formed body in claim 24, confirmation of this statement seen in claim 33 of copending Application No. 10/972,294). The electrode is made of a polymer, which is doped with a conductive substance. Claim 1 of the current application recites an overall concentration of dope in plastic material as 20-80%. Claim 24 of copending application 10/972294 does not recite a concentration of dope in the plastic.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the plastic with dope concentration 20-80%, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 5 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 31 of copending Application No. 10/972,294. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims recite the same plastic materials (polycarbonate, polyetheretherketone, etc.).

Claim 6 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 32 of copending Application No. 10/972294. Although the conflicting claims are not identical, they are not patentably distinct from each other because each contains the same intrinsically conductive plastic material (polyaniline, polyacetylene, etc.).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4, 7-13, 19-20, 26, and 30-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palermo (US 7101703) in view of Fujiwara et al. (US 6830848).

Regarding Claims 1-4, 7, 9-10, 26, 30-34, Palermo ('703) teaches an electrofusion microelectrode which may be used for fusion or electroporation of cells comprising at least one area which acts as an electrode and at least partially formed by an outer limit which forms an inner chamber for receiving said solution (Col 3, lines 29-39 and Figures 1-3); wherein said at least one said electrode is made of a conductive synthetic material which is doped with at least one conductive material; wherein the outer limit is made of synthetic material (Col 1, lines 36-65 and Col 2, lines 12-14). Palermo also teaches wherein the microelectrodes are used in pairs (Col 3, lines 29-35). Palermo teaches an electrode comprising every limitation of the instant claim, except wherein an overall concentration of said dope in said plastic material is 20-80%w/w.

Fujiwara et al. ('848) teaches a molded electrode comprised of a polymer active material, a conductivity-enhancing agent and a plasticizer, and a current collector sheet (see abstract). The conductivity-enhancing agent is comprised of graphite (Col 7, line 41-57) and the weight ratio of the polymer active material and the conductivity-enhancing agent is preferably 50:50 to 90:10, particularly preferably 75:25 to 90:10 (see column 8 line 17-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention use a concentration of the particulate conductive filament between 50 to 80% w/w in electrode taught by Palermo, because Fujiwara teaches constructing an electrode from a polymer doped with a conductivity-enhancing agent, wherein the weight ratio of the polymer active material and the conductivity-enhancing agent is preferably 50:50 to 90:10, to produce an electrode with a large amount of active material (Col 2 line 1-3).

Regarding Claim 8, Palermo ('703) does not explicitly state wherein said synthetic material is the same plastic material as the plastic material on which said at least one electrode is based.

It would have been an obvious matter of design choice to use the same materials, since applicant has not disclosed that using the same materials solves any stated problem or is for any

particular purpose and it appears that the invention would perform equally well with two electrodes composed of the same material.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the same plastic material as the plastic material on which said at least one electrode is based, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding Claim 11, Palermo ('703) does not explicitly state wherein at least two electrodes are made of different materials.

It would have been an obvious matter of design choice to use at least two electrodes of different materials, since applicant has not disclosed that using two electrodes of different materials solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with two electrodes composed of the same material.

Regarding claim 20, Palermo ('703) does not explicitly state wherein a container arrangement comprises at least two containers being joined to build one.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate the single, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 26, Palermo ('703) discloses a tube for treating cells in a medium, which inherently is aqueous (Col 4, lines 60-65).

Regarding claim 46, Palermo ('703) discloses a container according to claim 1, wherein said at least one electrode has a surface that is plane-parallel to a surface of a second electrode (Figures 1-3).

Regarding claim 47, Palermo ('703) does not disclose wherein the electrode is moldable.

Fujiwara et al. ('848) teaches a molded electrode (Abstract and Col 2, lines 15-23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a moldable electrode since it was known in the art that electrodes composed of the materials disclosed in the instant application are commonly formed through various methods of molding.

As to claim 48, the method of making the electrode to be used in the container of claim 1 does not further limit the claimed invention and therefore has not been given any patentable weight.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palermo (US 7101703) in view of Fujiwara et al. (US 6830848) as applied above to claim 1, further in view of Batliwalla (US 4761541).

Regarding claims 5 and 6, Palermo does not disclose the plastic materials of the instant claim.

Batliwalla ('541) teaches the resistive element composed of a first material comprising a thermoplastic crystalline polymer such as an olefin polymer, including homopolymers, particularly polyethylene and the polyalkenamers obtained by polymerizing cycloolefins; copolymers of two or more olefins; and copolymers of one or more olefins, e.g. ethylene or propylene, with one or more olefinically unsaturated co-monomers, preferably polar co-monomers, e.g. vinyl acetate, acrylic acid methyl acrylate and ethyl acrylate (Col 7, line 26-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plastic materials of the instant claim as taught by Batliwalla, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 12-18 and 35-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palermo (US 7101703) in view of Fujiwara et al. (US 6830848) as applied above to claim 1, further in view of Saito et al. (US 2002/0028368).

The rejection of claim 1 above is relied upon.

Regarding claim 14, 36-39 and 41-44, Palermo ('703) does not disclose a container according to claim 1, wherein at least one electrode is made of polycarbonate doped with 15-40% w/w carbon fibers and 1-40% w/w graphite.

Saito et al. teaches electrically conductive resinous compositions superior in electrical conductivity, mechanical properties, chemical resistance and moldability, which include a thermoplastic resin (see paragraph 0011 and 0025), an electrically conductive carbon powder and may be incorporated with optional additives such as fibrous base material (see paragraphs 0025 and 0046). This material is capable to be used as a material for the electrodes.

Saito et al. further teaches a resinous composition comprising a thermoplastic resin, which includes a polycarbonate resin (see paragraph 0026). The electrically conductive carbon powder is exemplified by flake graphite, massive graphite, artificial graphite, kish graphite and expansible graphite (see paragraph 0042). The carbon powder should be added in an amount of 100-10000 parts by mass for 100 parts by mass of the thermoplastic resin (see paragraph 0045) what is equal to 50-99% w/w of a total mass. The fibrous base material includes a carbon fiber, which should be used in an amount of 0-100 parts by mass for 100 parts by mass of thermoplastic resin (see paragraph 0047) what is equal to 0-50% w/w of a total mass. Saito et al. does not teach that graphite is added at concentration 1-40% w/w.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the optimal range of added graphite, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

It would have also been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the electrode from electrically conductive resinous composition comprising a polycarbonate resin doped with 0-50 % w/w of carbon fiber and graphite as taught by Saito et al. because it allows for the production of a material with the required electrical properties.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the preferred concentration of dope in said plastic material, since it has been held to be within the general skill of a worker in the art to select a known

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material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 15, Palermo ('703) does not disclose a container according to claim 1, wherein at least one electrode is made of polyetheretherketone doped with 30 - 50 % w/w carbon fibers.

Saito et al. teaches electrically conductive resinous compositions superior in electrical conductivity, mechanical properties, chemical resistance and moldability, which include a thermoplastic resin (see paragraph 0011 and 0025). This conductive resinous composition may be incorporated with optional additives such as fibrous base material (see paragraph 0046) and is capable to be used as a material for electrodes.

Saito et al. further teaches a resinous composition comprising a thermoplastic resin, which includes a poly-ether-ether-ketone resin (see paragraph 0026). Fibrous base material includes a carbon fiber, which should be used in an amount of 0-100 parts by mass for 100 parts by mass of thermoplastic resin (see paragraph 0047).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the electrode from electrically conductive resinous composition comprising a poly-ether-ether-ketone resin doped with 0-100 % w/w of carbon fiber as taught by Saito et al. because it for the production of a material with required electrical properties.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the preferred concentration of dope in said plastic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claims 12-13, 16, 35 and 40 Palermo ('703) does not disclose a container according to claim 1, wherein at least one electrode is made of polyamide, preferably polyamide 66, doped with 20- 40% w/w carbon fibers.

Saito et al. teaches electrically conductive resinous compositions superior in electrical conductivity, mechanical properties, chemical resistance and moldability, which include a thermoplastic resin (see paragraph 0011 and 0025). This conductive resinous composition may be incorporated with optional additives such as fibrous base material (see paragraph 0046) and is capable to be used as a material for electrodes.

Saito et al. further teaches a resinous composition comprising a thermoplastic resin, which includes a polyamide resin (see paragraph 0026). Examples of the polyamide resin include polyamide 66 (called nylon- 66) (see paragraph 0028). Fibrous base material includes carbon fiber, which should be used in an amount of 0-100 parts by mass for 100 parts by mass of thermoplastic resin (see paragraph 0047).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the electrode from electrically conductive resinous composition comprising a polyamide resin doped with 0-100 % w/w of carbon fiber as taught by Saito et al. because it allows to produce a material with required electrical properties.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the preferred concentration of dope in said plastic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 17, Palermo ('703) does not disclose a container according to claim 1, wherein at least one electrode is made of polypropylene doped with 20 % w/w carbon fibers.

Saito et al. teaches electrically conductive resinous compositions superior in electrical conductivity, mechanical properties, chemical resistance and moldability, which include a thermoplastic resin (see paragraph 0011 and 0025). This conductive resinous composition may be incorporated with optional additives such as fibrous base material (see paragraph 0046) and is capable to be used as a material for electrodes.

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Saito et al. further teaches a resinous composition comprising a thermoplastic resin, which includes a polypropylene resin (see paragraph 0026). Fibrous base material includes carbon fiber, which should be used in an amount of 0-100 parts by mass for 100 parts by mass of thermoplastic resin (see paragraph 0047).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the electrode from electrically conductive resinous composition comprising a polypropylene resin doped with 0-100 % w/w of carbon fiber as taught by Saito et al. because it allows for the production of a material with the required electrical properties.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the preferred concentration of dope in said plastic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 18, Palermo ('703) does not disclose a container according to claim 1, wherein at least one electrode is made of polyphenylene sulfide doped with 30-50 % w/w carbon fibers.

Saito et al. teaches electrically conductive resinous compositions superior in electrical conductivity, mechanical properties, chemical resistance and moldability, which include a thermoplastic resin (see paragraph 0011 and 0025). This conductive resinous composition may be incorporated with optional additives such as fibrous base material (see paragraph 0046) and is capable to be used as a material for electrodes.

Saito et al. further teaches a resinous composition comprising a thermoplastic resin, which includes a polyphenylene sulfide resin (see paragraph 0026). Fibrous base material includes carbon fiber, which should be used in an amount of 0-100 parts by mass for 100 parts by mass of thermoplastic resin (see paragraph 0047).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the electrode from electrically conductive resinous composition comprising a polyphenylene sulfide resin doped

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with 0-100 % w/w of carbon fiber as taught by Saito et al. because it allows for the production of a material with the required electrical properties.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the preferred concentration of dope in said plastic material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Claims 19 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palermo (US 7101703) in view of Fujiwara et al. (US 6830848) as applied above to claim 11 in view of Hofmann et al. (US 5676646).

Regarding claim 19, Palermo ('703) discloses a container wherein said outer limit comprises at least one opening for supplying said solution and at least one opening for draining off said solution (Figure 3).

Hofmann also discloses a container wherein said outer limit comprises at least one opening for supplying said solution and at least one opening for draining off said solution (Figure 3).

Regarding claim 27, Palermo ('703) does not explicitly state wherein said synthetic material is a transparent plastic.

Hofmann et al. teaches an electroporation container (90) (called cuvette chamber) wherein outer limit (92) (called enclosure) is fabricated from a clear plastic (see column 5 lines 46-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Palermo by fabricating the enclosure from a clear plastic because it allows to conduct the optical analysis of the cells functions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LYDIA EDWARDS whose telephone number is (571)270-3242. The examiner can normally be reached on Mon-Thur 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571.272.1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LYDIA EDWARDS/
Examiner
Art Unit 1797

LE

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797